

### **REMARKS/ARGUMENTS**

Claims 1 – 13, 16 – 18, and 20 – 23 remain pending in this application. Claims 14, 15, and 19 have been canceled. New claims 24 – 29 have been added.

Claim 23 has been objected to based on the term "bundles" being used instead of "bundle". This claim has now been corrected as required by the Official Action.

Claims 2, 5, 6, 14 and 23 have been rejected under 35 USC § 112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter of the claimed invention. Claims 2 and 23 have now been amended to further clarify the invention recited therein, while claims 5, 14, and 15 have been canceled and rewritten as claims 24 - 26. With regard to claim 6, it is respectfully submitted that the term "enhanced abrasive properties" will be understood by those skilled in the art to include both enhanced abrasion resistance, as well as enhanced and improved scrubbing or scouring properties. It is therefore respectfully submitted that claims 2, 6, and 23 as now pending are allowable over 35 USC § 112, second paragraph.

Claims 1 – 4, 6, 9, and 13 – 22 have been rejected under 35 USC § 102(b) as being anticipated by *Toon*. Applicant respectfully requests reconsideration. While *Toon* does state at column 6, lines 26 – 32 that "other garments and the like may not require the intrinsic stretch of knits and the composite yarns may be woven, bonded, needled, or otherwise formed into woven or non-woven fabrics..." there is no teaching of the yarns being subjected to the needling process as claimed wherein needles penetrate the yarns so as to cause the substantial intermixing of the fibers of the yarn components, including the core and sheath fibers thereof, nor does *Toon* appear to teach any engagement of a series of needles through a centerline of the yarn. Instead, *Toon*

teaches at column 5, lines 22 – 28, the wrapping of a stainless steel core with at least one ply of a non-metallic yarn to form the finished stainless steel yarn, and further teaches at lines 36 – 43 that at least one ply of the yarn is a metal fiber and at least one is a non-metallic yarn. There does not appear to be any discussion, however, in *Toon* of the engagement of a series of needles along a centerline of the yarn to engage and cause the metallic and non-metallic fibers or filaments to be intermixed together so that the yarn thus formed will include the material properties of the different fibers of the yarn components as is taught by the claimed invention. Accordingly, since *Toon* fails to teach all of the limitations taught by claims 1 – 4, 6, 9, and 13 – 22, as currently pending, it is submitted that *Toon* does not anticipate these claims under 35 USC § 102(b) and is therefore it is respectfully requested that this rejection be withdrawn.

Claims 1 – 4, 6, and 13 – 22 further have been rejected under 35 USC § 102(b) as being anticipated by *Hall, et al.* The rejection states that *Hall, et al.* teaches a core spun yarn needled substantially through a centerline of the yarn (Fig. 5) wherein the core and sheath have different material properties, including liquid absorption and abrasion (col. 3, ll. 30 – 33). Applicant respectfully requests reconsideration.

It is respectfully submitted that *Hall, et al.* fails to teach the spun yarn as recited by claims 1 – 4, 6 and 13 – 22 as now pending. *Hall, et al.* teaches bundles or groups of crimped, continuous filaments 73 and straight or un-crimped continuous filaments 71 that are engaged by needles and thereafter apparently are twisted together as indicated in Fig. 6 to provide a bulked yarn. (See col. 3, ll. 14 – 16). *Hall, et al.* does not show a composite yarn of various fibers which are subjected to needling in order to cause a substantially thorough intermixing of the fibers of the yarn, yarns, or a yarn and fibrous web or mat, to form a composite or engineered

yarn that includes the different material properties of the different fibers of the yarn bundle or composite spun yarn such as enhanced resistance to unraveling, enhanced resistance to linting, and/or desired aesthetic properties, as well as to lock in the twist of the yarn without requiring the addition of low melt fibers and a costly heat setting process to lock in the twist of the yarn.

*Hall, et al.* does mention producing a yarn having "the appearance of a spun yarn," but does not appear to teach a spun yarn such as a yarn having fibers of three inches or less and/or yarns with a core fiber(s) wrapped with sheath fibers. *Hall, et al.* instead discloses the use of bundles of straight, uncrimped filaments and crimped filaments, and that while certain of the crimped filaments 73 will be bent down by the penetration of the needles, the un-crimped, straight filaments 71 will snap back into place. Thus, while *Hall, et al.* discloses displacement of certain isolated filaments in the bundle to try to make a "bulked yarn," it does not appear to teach the substantial intermixing of the fibers of the composite yarn or yarn bundle components, with the resultant yarn including different material properties of the different fibers being intermixed, nor does Hall appear to teach needling to lock in the twist of the yarn, since *Hall* apparently twists after needling.

The Official Action cites column 3, lines 30 – 33 of *Hall, et al.* for the proposition that the core and sheath have different material properties including liquid absorption and abrasion resistance. However, a review of this passage fails to indicate that *Hall, et al.* teaches the use of core and sheath fibers having different material properties, much less that the composite yarn formed thereby has different material properties of the fibers such as resistance to linting, which is not an issue addressed by *Hall, et al.* as linting generally is not a problem with filaments such as used by *Hall, et al.* Instead, this cited passage simply states:

The yarns in the combination above need not be of the same chemical composition or fiber form. Continuous filament synthetic fibers, staple synthetic fibers, cotton, wool, glass fibers, can be used.

It thus appears that *Hall, et al.* is specifically directed to the formation of a bulked yarn, including yarns having variable bulk, but does not teach the invention taught by claims 1 – 4, 6, 9, 13, 16 – 18, and 20 - 22 as now pending. Accordingly, it is respectfully submitted that *Hall, et al.* fails to anticipate these claims under 35 USC § 102(b) and therefore it is requested that this rejection be withdrawn.

Claims 7, 8, and 10 – 12 have been rejected under 35 USC § 103 as being unpatentable over *Toon* in view of *Hatch, Textile Science*, and further claims 7 – 12 have been rejected under 35 USC § 103(a) as being unpatentable over *Hall, et al.* in view of *Hatch, Textile Science*. Applicant respectfully submits that claims 7 – 12 are dependent from claim 1 either directly or indirectly, and that claim 1 is believed to be allowable over both *Toon* and *Hall, et al.* for the reasons discussed above. Likewise, it is respectfully submitted that claims 7 – 12 further are patentable over the cited combinations of *Toon* in view of *Hatch, Textile Science*, and *Hall, et al.* in view of *Hatch, Textile Science*. Therefore, it is respectfully requested that the rejections of claims 7, 8 and 10 – 12 over *Toon* in view of *Hatch, Textile Science*, and claims 7 – 12 over *Hall, et al.* in view of *Hatch, Textile Science*, be withdrawn.

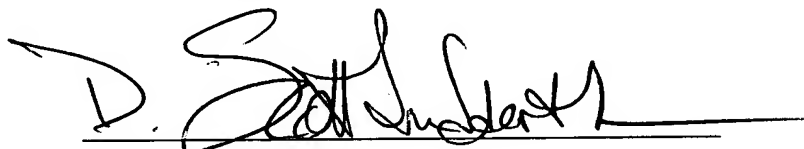
Claims 1, 3 and 18 also have been rejected under the judicially created doctrine of obviousness type double patenting as being unpatentable over claims 1 – 5 of U.S. Patent No. 6,311,375. As noted in the Official Action, a terminal disclaimer in compliance with 37 CFR § 1.321(c) is being filed herewith to overcome the rejection of claims 1, 13 and 18 under the

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judicially created doctrine of obviousness type double patenting. It is respectfully requested that this terminal disclaimer be entered in this application and that this rejection accordingly be withdrawn.

In summary, it is respectfully submitted that claims 1 – 4, 6 – 13, 16 – 18, and 20 – 26, as now pending in this application, define a spun engineered yarn or composite yarn that provides a distinct advance in the art that is not anticipated or made obvious by the cited art of record. An early notice of allowance accordingly is solicited. Should the Examiner have any questions regarding this amendment, he is invited and urged to telephone the undersigned attorney.

Respectfully submitted,

A handwritten signature in black ink, appearing to read "D. Scott Sudderth", is written over a horizontal line.

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